

SERIAL NO. 09/762,833

TW-5922-A

REMARKS

At the outset, the applicants, Dr. Charles Berge and attorney Deshmukh take this opportunity to sincerely thank Examiner Lipman for graciously agreeing to conduct the interview after final on November 6, 2003. All the outstanding rejections were reviewed. No agreement was reached. Examiner Lipman also requested that the applicants should correct all the missing alphabets in words in the specification at various places that occurred during the photocopying of the specification by the PCT receiving office.

The Office Action rejected claims 11-22, 28-37 and 39 under 35 U.S.C. § 112, first paragraph as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which its is most nearly connected, to make and/or use the invention.

The Office Action stated that the specific limitation of the claims, which restricts Z to be not alkoxy when Q is styrene or methyl methacrylate finds no support in the written disclosure. The foregoing rejection is respectfully traversed since the specification at page 22, lines 1-4 does state "Xanthate esters (Z = -O-alkyl) also have low transfer constants in polymerizations of styrene and methyl methacrylate (0.1) and are not effective in imparting living characteristics to polymerizations of these monomers. **These compounds are not part of the present invention.**" (emphasis added). From the foregoing statement in the specification, it is clear that when the repeat units of Q include styrene or methyl methacrylate moieties, Z as alkoxy is NOT part of the present invention, i.e., it is excluded from the present invention. Therefore, the proviso is fully supported in the specification. As a result, it is respectfully submitted that the foregoing rejection of the pending claims be reconsidered.

The Office Action rejected claims 11-22, 28-37 and 39 under 35 U.S.C. § 112, second paragraph as indefinite insofar as the formula A is not identifiable as a polymer, let alone as a block polymer. To overcome the foregoing rejection, claim 11 was amended in the following fashion:

The current (i), namely "a monomer having repeating units of Q", was replaced with "one or more vinyl monomers of structure $\text{CH}_2=\text{CUV}$ ". To one of ordinary skill in the art it would be a well-understood convention to indicate a repeating unit by providing a subscript "q" to the parenthesis. Thus, Q was properly

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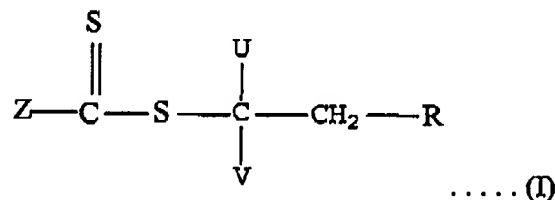
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recited to indicate that it would be repeating units (q) of ($-\text{CH}_2 - \text{CUV}-$) structure. Since monomers are restricted to only vinyl monomers, the alternate cyclic structures of Q have been deleted from claim 11. The following various schemes explain what the applicants consider to be the block polymer of the present invention:

Scheme I:

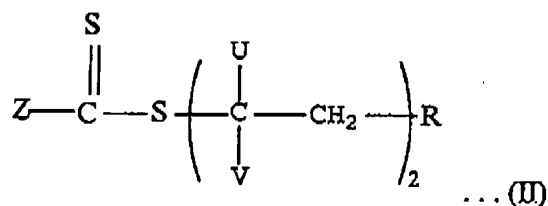
When $q = 1$, Q would be a single unit of structure of ($-\text{CH}_2 - \text{CUV}-$).

Thus, the block polymer can have the following possible structure:



wherein R can be selected from the group consisting of optionally substituted alkyl; optionally substituted alkenyl; optionally substituted alkynyl; an optionally substituted saturated, unsaturated or aromatic carbocyclic or heterocyclic ring; and a polymer chain prepared by any polymerization mechanism; in agent C, R \cdot is a free-radical leaving group that initiates free radical polymerization, so long as R is different than Q. As defined herein, when R is not a polymer chain, then the block polymer structure of Formula A would be a dimer, that is the way the applicants have defined the block polymer in the present invention. It should be noted that it is not unconventional to consider a dimer to be a block polymer, such as, for example, claim 1 of the attached US Patent 6,153,705 wherein the block polymer of general formula (I) is a dimer when a and b = 0 and m and n = 1.

Scheme II:

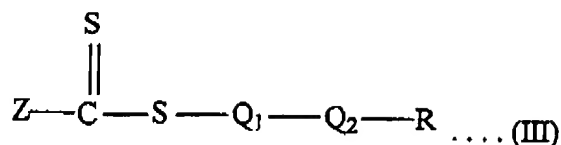


When $q = 2$ or more, Q can be two or more units of the same structure ($-\text{CH}_2 - \text{CUV}-$), i.e., (Q) $_2$, (homo dimer or homopolymer). R can be any of the groups recited therein provided R is not the same as Q.

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Scheme III:



When $q = 2$ or more, Q can be two or more units of different structures ($-\text{CH}_2-\text{CUV}-$), i.e., Q_1, Q_2 , etc., wherein Q_1 is different than Q_2 (dimer or di-block polymer). R can be any of the groups recited provided R is not the same as Q_1 or Q_2 .

The foregoing polymerization pathways are well described in the examples included in the specifications. For example, Example 77 on pages 65 and 66 illustrates di-block polymers where " Q " = 2 (Q_1 and Q_2) Example 87 on page 74 (see also structure 28 on page 26) wherein " Q " = 1 and R is a polymeric chain. The " q " can be readily calculated by dividing the molecular weight of the polymer by the molecular weight of the monomer Q .


The specification was also amended to include missing alphabets on various pages in the PCT application, which must have occurred during the scanning of the original specification submitted by the applicants to the PCT receiving office.

In addition, the explanation provided in the paragraph starting on page 6, lines 35-37 and ending on page 7, lines 1-5 was also amended to properly explain how the various types of polymers can be formed by the process of the present invention.

No new matter has been added.

Should the Examiner wish to discuss any issues involved in this application, the Examiner is respectfully invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,


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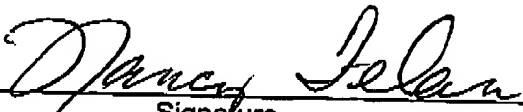
Dated: November 12, 2003

ATTACHMENT US PATENT 6,153,705

Certificate of Transmission under 37 CFR 1.8

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TW5922USPCT

Request for Continued Examination (RCE) Transmittal

Submission Under 37 CFR 1.114(c) - (12 pages)

US Patent 6,153,705

Fee Transmittal

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